

WHAT IS CLAIMED IS:

1. Injection molding hot runner system adapted for leak detection during injection molding, wherein the hot runner system comprises a manifold and a housing surrounding the manifold, wherein the manifold and the housing are spaced apart defining one or more pockets, the manifold comprises one or more junction points establishing a connection to a component attached to the manifold, wherein at the at least one junction point area a sensor is located in the pocket, wherein the sensor is configured to indicate a leak, when getting in contact with the molten plastic due to a leak at the junction point.
2. The injection molding hot runner system, according to claim 1 wherein the junction point is one or more of the following: a bore or thread in the manifold to mount an inlet or an injection nozzle, a manifold joint connecting two manifold sections, a bore in the manifold through which a hydraulic, electric or pneumatic actuator extends to drive the injection nozzle.
3. The injection molding hot runner system according to claim 2, wherein the injection nozzle extends from the manifold through a bore of the housing, wherein the bore of the housing is in communication with the pocket, so that due to a leak at the injection nozzle, molten plastic extends into the pocket, detectable by the sensor located in the pocket at the bore.
4. The injection molding hot runner system according to claim 2, wherein the sensor is connected to the support spacing apart from the manifold and the housing.
5. The injection molding hot runner system according to claim 1, wherein the housing comprises several plates defining the housing.
6. The injection molding hot runner system according to claim 1, wherein the sensor is one or more of the following: a temperature sensor, a mechanical switch, temperature coil, a contact sensor, optical sensor, pressure sensor, inductive sensor, capacitive sensor, resistance sensor, and piezo sensor.

7. The injection molding hot runner system according to claim 6, wherein the temperature sensor is connected to an upper wall of the pocket and extends downwards into the channel.
8. The injection molding hot runner system according to claim 6, wherein the temperature sensor is insulated to reduce the temperature influence of the housing or manifold.
9. The injection molding manifold assembly according to claim 8, wherein the temperature sensor is insulated by a ceramic.
10. The injection molding hot runner system according to claim 8, wherein the insulation is surrounding the support and the temperature sensor is attached to the insulation.
11. The injection molding hot runner system according to claim 8, wherein the temperature sensor is located in between an upper and a lower insulation.
12. The injection molding hot runner system according to claim 6, wherein the temperature sensor and a temperature reading device are configured to detect a temperature deviation, when getting in contact with molten plastic passing through the leak.
13. The injection molding hot runner system according to claim 2, wherein the nozzle assembly comprises a nozzle shank being fastened into or onto the manifold, and wherein the temperature sensor is located at the vicinity of the lower or upper end of the manifold close to the nozzle shank or inlet nozzle.
14. An injection molding hot runner system adapted for leak detection during injection molding, wherein the hot runner system comprises a manifold and a housing surrounding the manifold, wherein the manifold and the housing are spaced apart defining one or more pockets, wherein a nozzle assembly extends from the manifold via the pocket through a bore of the housing, the nozzle assembly comprises a nozzle heater located in the bore, wherein a

sensor is located in the bore in which the nozzle heater extends to detect leaking plastic pressed through the bore.

15. The injection molding hot runner system according to claim 14, wherein the sensor is one or more of the following: a temperature sensor, a mechanical sensor, mechanical switch, temperature coil, a contact sensor, optical sensor, pressure sensor, inductive sensor, capacitive sensor, resistant sensor, and piezo sensor.

16. The injection molding hot runner system according to claim 15, wherein the temperature sensor is configured to detect a temperature deviation when getting in contact with molten plastic passing through the leak.

17. The injection molding hot runner system according to claim 13, wherein the sensor is located on/in the nozzle heater or at the upper end of the nozzle heater.

18. The injection molding hot runner system according to claim 14, wherein the sensor is located in a groove on an outer shell of the nozzle heater.

19. The injection molding hot runner system according to claim 14, wherein a heating coil of the nozzle heater is used as a sensor indicating the leak when the current used to drive the heating coil passes a preset threshold value.

20. The injection molding hot runner system according to claim 15, wherein a mechanical sensor when getting in contact with the molten plastic is configured to indicate a leak.

21. The injection molding hot runner system according to claim 20, wherein the mechanical sensor is a switch configured to close or open when getting in contact with the molten plastic.

22. The injection molding hot runner system according to claim 20, wherein the mechanical sensor is a wire configured to break when getting in contact with the molten plastic.

23. The injection molding hot runner system according to claim 8, wherein the mechanical sensor has the form of a tube located around the nozzle assembly, configured to get pushed by molten plastic and configured to indicate a relocation.

24. The injection molding hot runner system according to claim 15, wherein the sensor is a mesh around the nozzle assembly changing electrical or mechanical or optical behavior when getting in contact with molten plastic.

25. The injection molding hot runner system according to claim 15, wherein the optical sensor is a fibre sensor, indicating different light distribution or letting pass different light amounts when getting in contact with the molten plastic.